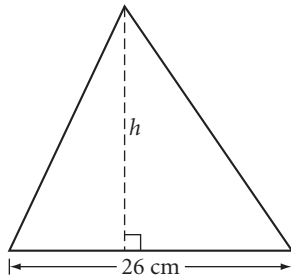


Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

In Problems 1–11, find the missing measure. The figures are not drawn to scale.

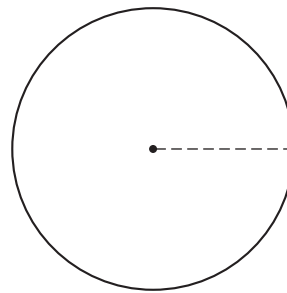
1.  $h = 16$  cm

Area = \_\_\_\_\_



2. The circumference is  $36\pi$  cm.

Area = \_\_\_\_\_

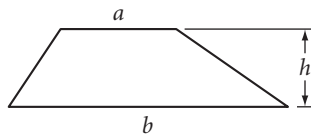


3. Area =  $756$  cm<sup>2</sup>

$h = 18$  cm

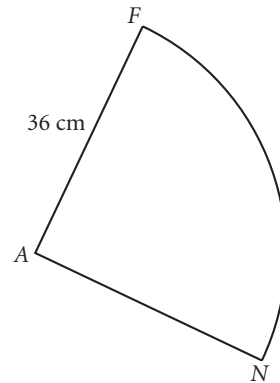
$a = 39$  cm

$b =$  \_\_\_\_\_



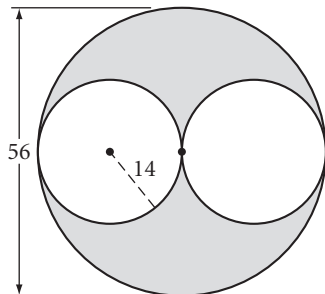
4. The area of the sector is  $144\pi$  cm<sup>2</sup>.

$m\angle FAN =$  \_\_\_\_\_

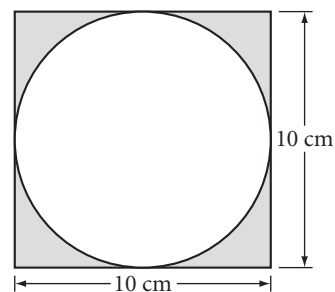


5. All measurements are in centimeters.

Area of shaded region = \_\_\_\_\_



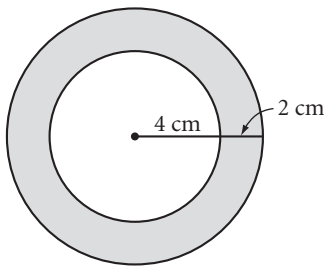
6. Area of shaded region = \_\_\_\_\_



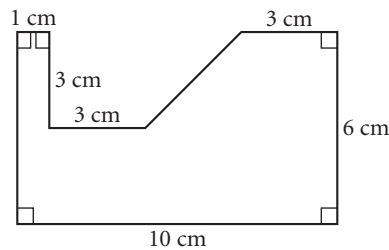
(continued)

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

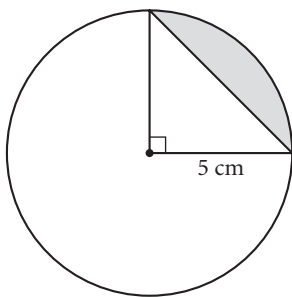
7. Area of shaded annulus = \_\_\_\_\_



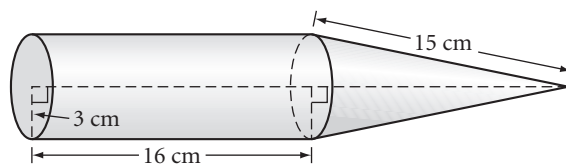
8. Area = \_\_\_\_\_



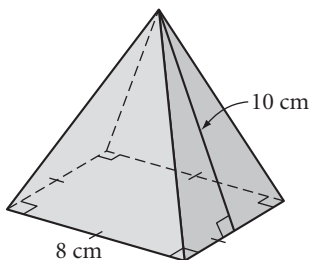
9. Area of shaded segment = \_\_\_\_\_



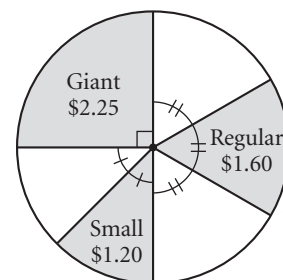
10. Surface area = \_\_\_\_\_



11. Surface area = \_\_\_\_\_



12. Al's Pizzeria sells cheese pizza by the slice, according to the figure. Which slice gives the best deal (the most pizza per dollar)?
13. A regular octagon has area 690 square feet and side length 20 feet. Find the apothem to the nearest tenth of a foot.
14. Mr. James wants to coat the ceiling, walls, and floor of a rectangular storeroom with a flame-retardant material that costs \$39.95 per gallon. The dimensions of the room are 7 m by 9 m by 4.5 m. If one gallon covers  $110 \text{ m}^2$ , how much will Mr. James need to spend to protect the storeroom?



Al's pizza-by-the-slice prices

(continued)

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

**Mixed Review**

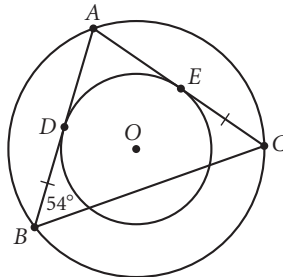
1. In the diagram below, the two circles with center  $O$  are concentric.  $\overline{AC}$  and  $\overline{AB}$  are tangent segments and  $\overline{DB} \cong \overline{EC}$ .

$$m\angle BAC = \underline{\hspace{2cm}}$$

$$m\widehat{BC} = \underline{\hspace{2cm}}$$

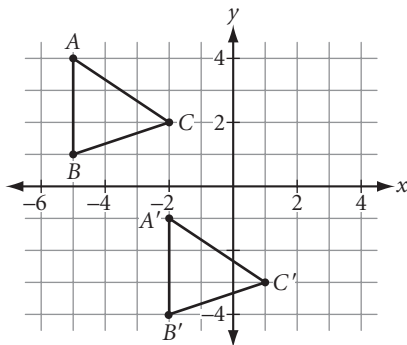
$$m\widehat{DE} = \underline{\hspace{2cm}}$$

$$m\widehat{AB} = \underline{\hspace{2cm}}$$

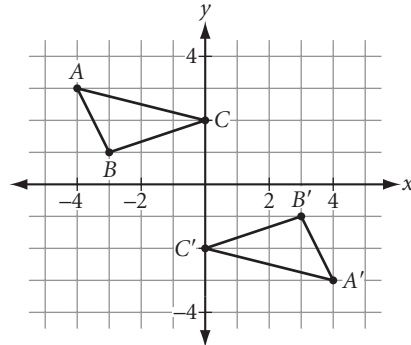


For Problems 2 and 3, complete the ordered pair rule that transforms  $\triangle ABC$  into its image,  $\triangle A'B'C'$ .

2.  $(x, y) \rightarrow \underline{\hspace{2cm}}$



3.  $(x, y) \rightarrow \underline{\hspace{2cm}}$



In Problems 4–7, identify each statement as true or false. If true, explain why. If false, give a counterexample explaining why it is false.

4. If an exterior angle of a polygon measures  $20^\circ$ , then the polygon has 18 sides.
5. If four sides of one quadrilateral are congruent to the four corresponding sides of a second quadrilateral, then the two quadrilaterals are congruent.
6. If two sides of a triangle measure 10 cm and 15 cm, then the third side must measure less than 25 cm and greater than 5 cm.
7. If the diagonals of rhombus  $ABCD$  intersect at point  $E$ , then  $AE = BE$  and  $DE = EC$ .
8. Write a paragraph or a flowchart proof to show the following.

**Given:**  $\triangle ABC$  is isosceles with vertex angle  $C$ ,  $\overline{AD} \cong \overline{BE}$

**Show:**  $\triangle DEC$  is isosceles

